

5. (Amended) Orthopedic splint according to claim 1, characterized in that the padding for the calf (9) is fastened on the inner side of the covering section by hook and loop fastening means [of a Velcro fastener].

#### REMARKS

The Examiner's rejection of claim 5 under 35 U.S.C. §112, second paragraph, for being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, as this rejection may be attempted to be applied to the amended claims, is respectfully traversed.

In support of this traverse, applicant states that claim 5 has been amended to remove the trademark, VELCRO from the claim.

The Examiner's rejection of claims 1 and 6 under 35 U.S.C. §102(b) for being anticipated by the Moore U.S. Patent No. 3,831,467, as this rejection may be attempted to be applied to the amended claims, is respectfully traversed.

In support of this traverse, applicant first points out that claim 1 has been amended to call for:

--the covering section to include a padding for the calf (9) only with the covering section urging the padding toward the calf only and not toward the knee.

Such structure is not at all disclosed in Moore. All that Moore discloses a knee brace for immobilization of the knee. There are provided a couple of straps 28 and rigid stays 36, and a planar base sheet of flexible resilient material. Column 2, lines 35-37 reads:

"Due to the natural bodes cavity in the back of the knee, the stiffeners (36) will be spaced from the leg in the popliteal region."

To solve this problem, Moore proposes a resilient pad 42 placed in the popliteal region (see Column 2), lines 38-55).

According to the present invention, there is provided a padding which pushes on the calf and exerts a forward directed force onto it.

This solution is directed to another problem than to the problem which Moore wants to solve. The medical background described in the specification explains the problem to be solved. Moore does not solve the problem of the dead weight of the leg pulling the calf into the posterior drawer. As is shown in FIG. 2, the padding 9 is

clearly below knee 14.


The Examiner's rejection of claim 5 under 35 U.S.C. §103(a) for being unpatentable over Moore in view of the Wang U.S. Patent No. 5,282,483, as this rejection may be attempted to be applied to the amended claims, is respectfully traversed.

In support of this traverse, while Wang may teach the use of hook and loop fastening means sold under the trademark VELCRO in a splint, neither Moore or Wang teach applicant's splint.

Claims 2-4 indicated as having allowable subject matter, have been rewritten into independent form and as so rewritten are considered to be in condition for allowance.

In summary, applicant submits that upon entry of the above amendments to the specification and claims, and reconsideration of the claims as amended in conjunction with the above remarks, it will be clear that the application is now in condition for allowance. An early and favorable action to that end is requested.

Respectfully submitted,

  
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## ORTHOPEDIC SPLINT BACKGROUND OF THE INVENTION

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### 1. Field of the Invention.

5 The invention relates to an orthopedic splint for maintaining the knee in a rest position, specially after surgery on the posterior cruciate ligament.

### 2. Description of the Prior Art.

An orthopedic splint for maintaining the knee in a rest position comprising a covering section with stabilizing sticks arranged in pockets as well as Velcro®  
10 strips to fasten the covering section which is wrapped around the leg is known under the product name Medicom Classic for example. The covering section has wings fastened on it by means of [Velcro strips] hook and loop strips sold under the trademark VELCRO thanks to which the splint may be adapted to different leg sizes. This splint is used for injuries of the anterior cruciate ligament, the meniscus  
15 and the like. When the knee is normally stretched, the posterior cruciate ligament is tense. When the patient is lying, the dead weight of the leg is pulling the calf into the so-called posterior drawer and increases thus the tension on the posterior cruciate ligament. The strain thus exerted onto the posterior cruciate ligament, specially after reconstructive surgery, should be avoided in order to accelerate the  
20 healing process and to prevent the ligament from lazing.

## SUMMARY OF THE INVENTION

An object of the present invention is therefor to provide an orthopedic splint for maintaining the knee in a rest position, by means of which the posterior cruciate ligament is relieved.

25 According to the invention, an orthopedic splint is provided comprising a covering section with stabilizing sticks as well as strips to fasten the covering section which is wrapped around the leg, wherein the covering section has a padding for the calf in the corresponding area. The padding for the calf is preferably sticking out of the splint in direction of the Achilles tendon and is  
30 provided on its lower part with an incision where it encompasses the Achilles tendon on both sides.

According to a preferred embodiment of the invention, the padding for the calf is consisting of a foamed body and is reinforced on the side turned away from the leg with a plastic brace, whereas the foamed body has a radius enabling it to

snug the calf. The padding for the calf is fastened on the inner side of the covering section by means of a Velcro® fastener.

### BRIEF DESCRIPTION OF THE DRAWINGS

The invention is described with more details with the help of the following  
5 drawings:

Fig. 1 shows a top view of an orthopedic splint with a padding for the knee in an open position;

Fig. 2 is a schematic diagram of the splint shown in Fig. 1 applied to a knee;

Fig. 3 shows an open splint slightly amended with respect to Fig. 1 without  
10 padding for the calf;

Fig. 4 is a top view of a padding for the calf;

Fig. 5 is a lateral view of the padding shown in Fig. 4;

Fig. 6 is a sectional view taken along the line A-A of Fig. 4;

Fig. 7 is a section view taken along the line B-B of Fig. 4.

### 15 DESCRIPTION OF THE PREFERRED EMBODIMENT(S)

The orthopedic splint 1 for maintaining the knee in a rest position according to Fig. 1. The central part 2 and the lateral parts 3, 4 are removably connected for example by means of Velcro® fasteners so that they may be adapted to different leg sizes or situations. Stabilizing sticks 6 are arranged on the sides, that is in the  
20 areas being located at the side of the knee when the splint is applied. The sticks are preferably removably placed in pockets. The covering section is provided on its outer side with a Velcro® fleece onto which Velcro® strips 5 arranged on the outer side of lateral part 4 may be meshed. Radial Velcro® strips 7 fastened to the inner side of the covering section are responsible for the firm position of the splint on the  
25 leg. The radial Velcro® fasteners are guided outwardly through opposite eyes 8 and are then folded and may also be connected to the Velcro® fleece. The lower end of the covering section is provided with a padding 9 for the calf, the padding having an upper bulging section 10 which is tapered downwards and which ends in two extremities 11, 12 separated by a split. The padding 9 for the calf is sticking  
30 out of the lower part of the covering section.

Fig. 2 shows in a schematic diagram how the splint 1 is applied to the leg. A leg with thigh 15, knee 14 and calf 13 is shown. The splint is tightly wrapped around the leg by means of Velcro® strips guided through eyes 8. The upper, anterior Velcro® strips are thereby pushing the thigh backwards, the lower,

posterior Velcro® strips are supporting the padding for the calf. The padding 9 for the calf, which is connected to the central part 2 of the covering section by means of a Velcro® fastener, is pushing onto the calf and exerts a forward directed force onto calf 13. It thus prevents the calf from being urged, in the area of the knee, into the so-called posterior drawer, since this would result in a lax ingrowth of the posterior cruciate ligament after surgery. It may also be seen that the padding for the calf is extending into the area of the Achilles tendon, which it supports laterally with its extremities 11, 12.

Fig. 3 is showing a smaller, slightly amended embodiment of the splint of Fig. 1, which has less Velcro® strips 7' and less eyes 8'. The padding for the knee is not inserted and the fleece strips 16, which may be meshed with the Velcro® strips of the padding for the calf, may be seen. Thanks to the Velcro® fastener between the padding for the knee and the covering section the splint may be individually adjusted to the leg.

The padding 9 for the calf according to Fig. 4 - 7 has a bulging upper section 10 that is tapered downwards and ends in two extremities 11 and 12 as already shown in Fig. 1. It comprises a foamed body snuggling the calf, whereas the inner side of the foamed body is sheathed with a material kind to the skin and whereas the outer side is supported by a plastic brace 18. The plastic brace is extending over the biggest part of the padding's 9 length, its extremities inclusive. The padding 9 for the calf has inside and outside a radial radius adjusted to the calf. The Velcro® strips 17 which are arranged on the outer side of plastic brace 18 and which may be meshed with the fleece strips 16 of Fig. 3 are hinted at in Fig. 4.

## CLAIMS

## WE CLAIM:

1. An orthopedic splint for maintaining the knee in a rest position, specially after surgery on the posterior cruciate ligament, comprising a covering  
5 section with stabilizing sticks as well as strips to fasten the covering section which is wrapped around the leg,  
characterized in that the covering section has a padding for the calf (9) in the corresponding area.
2. Orthopedic splint according to claim 1,  
10 characterized in that the padding for the calf (9) is sticking out of the splint (1) in direction of the Achilles tendon.
3. Orthopedic splint according to claim 2,  
characterized in that the padding for the calf (9) is provided on its lower part with an incision where it encompasses the Achilles tendon on both  
15 sides.
4. Orthopedic splint according to claim 1,  
characterized in that the padding for the calf (9) is consisting of a foamed body and is reinforced on the side turned away from the leg with a plastic  
brace 18, whereas the foamed body has a radius enabling it to snug the calf.
- 20 5. Orthopedic splint according to claim 1,  
characterized in that the padding for the calf (9) is fastened on the inner side of the covering section by means of a Velcro fastener.
6. Orthopedic splint according to claim 1,  
characterized in that the covering section comprises component  
25 parts (2, 3, 4) which may be connected in different positions.

### ABSTRACT OF THE DISCLOSURE

The orthopedic splint (1) for maintaining the knee in a rest position, especially after surgery on the posterior cruciate ligament, comprises a covering section (2, 3, 4) with stabilizing sticks (6) as well as strips (7) to fasten the covering  
5 section (2, 3, 4) which is wrapped around the leg and wherein the covering section (2, 3, 4) has a padding for the calf in the corresponding area.